

## HIGH-SENSITIVITY METHOD OF DEFORMATION OF PYRROLE POLYMER FILM

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**Inventor(s):** KUNUGI TOSHIO [JP]; OKUZAKI HIDENORI [JP]

**Applicant(s):** KUNUGI TOSHIO [JP]; OKUZAKI HIDENORI [JP]

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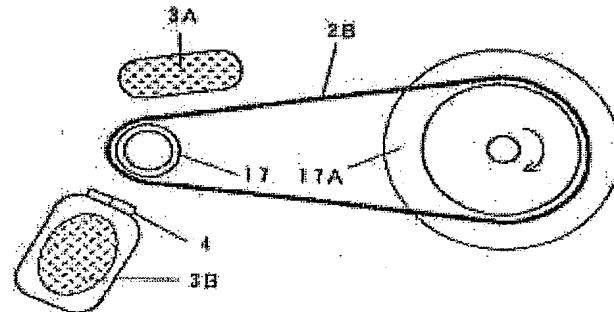
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### Abstract of WO 9708458 (A1)

A high-sensitivity method of deformation of films of a pyrrole polymer having at least 50 mol % of pyrrole units in air by employing the adsorption and desorption of water and/or a volatile polar solvent on the surface of the film. This method follows a principle different from the conventional one based on stimulus-responsive polymers and enables repeated large deformation and recovery of the film rapidly in air by utilizing minute relative humidity changes of several percent or less. The invention also provides a high-sensitivity method of deformation of pyrrole polymer films functioning also as a high-sensitivity chemical sensor, and enables production of a "rotary actuator" which moves while rotating, which has been impossible with conventional gels or conductive polymer films, and a "polypyrrole engine" which is driven by only the vapor of the compound and is expected to act as a novel power source in future.



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